

SBS 121

Andhra University, Visakhapatnam
Department of Botany
M.Sc Botany, 1st Semester

Paper 102: BIOLOGY AND DIVERSITY OF VIRUSES, BACTERIA AND FUNGI
(With effect from the admitted batch of 2009- 10)

Theory:

General account of archaeobacteria, eubacteria and cyanobacteria, Ultrastructure, nutrition, reproduction and economic importance of bacteria

Ultrastructure and chemistry of viruses, Isolation and purification of viruses, Replication and transmission of viruses

Mycoplasma like organisms and their role in carrying plant diseases, Fungal and bacterial diseases in plants and humans, Plant viral diseases

Recent trends in fungal classification, Ultrastructure of fungal cell and thallus organization in fungi

General account of mastigomycotina, zygomycotina, ascomycotina, basidiomycotina, deuteromycotina

Reproduction in fungi – vegetative, asexual and sexual, Heterothallism, heterokaryosis and parasexuality

Nutrition of fungi – saprobic, biotrophic, and symbiotic, Phylogeny of fungi

Fungi in industry, medicine and as food and as biocontrol agents, Mushroom cultivation, Mycorrhiza

SUGGESTED LABORATORY EXERCISES

Morphological study of *Stemonitis*, *Saprolegnia*, *Mucor*, *Morchella*, *Aspergillus*, *Agaricus*, *Cyathus*, *Synchytrium*, *Helminthosporium*

Symptomatology of some diseased specimens – White rust, Powdery mildew, Green ear of Bajra, Rust of Wheat, Rust of Linseed, Tikka disease of ground nut, Red rot of sugarcane, Blast of rice, Citrus canker, and Tobacco mosaic disease.

Gram staining of bacteria

Sterilization methods

Preparation of media and stains

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